

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$$

and, \bar{x} is the sample mean; n is the number of samples; and x_i is the minimum of the i^{th} sample;

Or,

(B) The lower 95 percent confidence limit (LCL) of the true mean divided by 0.95, where:

$$LCL = \bar{x} - t_{.95} \left(\frac{s}{\sqrt{n}} \right)$$

And \bar{x} is the sample mean; s is the sample standard deviation; n is the number of samples; and $t_{0.95}$ is the t statistic for a 95% one-tailed confidence interval with $n-1$ degrees of freedom (from Appendix A).

(b) *Certification reports.* (1) The requirements of § 429.12 are applicable to commercial WH equipment; and

(2) Pursuant to § 429.12(b)(13), a certification report shall include the following public product-specific information:

(i) Commercial electric storage water heaters: The maximum standby loss in percent per hour (%/hr), and the measured storage volume in gallons (gal).

(ii) Commercial gas-fired and oil-fired storage water heaters: The minimum thermal efficiency in percent (%), the maximum standby loss in British thermal units per hour (Btu/h), the rated storage volume in gallons (gal), the measured storage volume in gallons (gal) and the nameplate input rate in British thermal units per hour (Btu/h).

(iii) Commercial gas-fired and oil-fired instantaneous water heaters greater than or equal to 10 gallons and gas-fired and oil-fired hot water supply boilers greater than or equal to 10 gallons: the minimum thermal efficiency in percent (%), the maximum standby loss in British thermal units per hour (Btu/h), the rated storage volume in

gallons (gal), and the nameplate input rate in Btu/h.

(iv) Commercial gas-fired and oil-fired instantaneous water heaters less than 10 gallons and gas-fired and oil-fired hot water supply boilers less than 10 gallons: the minimum thermal efficiency in percent (%) and the storage volume in gallons (g).

(v) Commercial unfired hot water storage tanks: The minimum thermal insulation (*i.e.*, R-value) and the measured storage volume in gallons (gal).

(c) Alternative methods for determining efficiency or energy use for commercial WH equipment can be found in § 429.70 of this subpart.

[76 FR 12451, Mar. 7, 2011; 76 FR 24776, May 2, 2011]

§ 429.45 Automatic commercial ice makers.

(a) *Sampling plan for selection of units for testing.* (1) The requirements of § 429.11 are applicable to automatic commercial ice makers; and

(2) For each basic model of automatic commercial ice maker selected for testing, a sample of sufficient size shall be randomly selected and tested to ensure that—

§ 429.45

10 CFR Ch. II (1–1–13 Edition)

(i) Any represented value of maximum energy use or other measure of energy consumption of a basic model for which consumers would favor lower values shall be greater than or equal to the higher of:

(A) The mean of the sample, where:

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$$

and, \bar{x} is the sample mean; n is the number of samples; and x_i is the i^{th} sample;

Or,

(B) The upper 95 percent confidence limit (UCL) of the true mean divided by 1.10, where:

$$UCL = \bar{x} + t_{.95} \left(\frac{s}{\sqrt{n}} \right)$$

And \bar{x} is the sample mean; s is the sample standard deviation; n is the number of samples; and $t_{0.95}$ is the t statistic for a 95% two-tailed confidence interval with n-1 degrees of freedom (from Appendix A).

and

(ii) Any represented value of the energy efficiency or other measure of energy consumption of a basic model for which consumers would favor higher values shall be less than or equal to the lower of:

(A) The mean of the sample, where:

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$$

and, \bar{x} is the sample mean; n is the number of samples; and x_i is the i^{th} sample;

Or,

(B) The lower 95 percent confidence limit (LCL) of the true mean divided by 0.90, where:

$$LCL = \bar{x} - t_{.95} \left(\frac{s}{\sqrt{n}} \right)$$

And \bar{x} is the sample mean; s is the sample standard deviation; n is the number of samples; and $t_{0.95}$ is the t statistic for a 95% two-tailed confidence interval with n-1 degrees of freedom (from Appendix A).

Department of Energy

§ 429.46

(b) *Certification reports.* (1) The requirements of § 429.12 are applicable to automatic commercial ice makers; and

(2) Pursuant to § 429.12(b)(13), a certification report shall include the following public product-specific information: The maximum energy use in kilowatt hours per 100 pounds of ice (kWh/100 lbs ice), the maximum condenser water use in gallons per 100 pounds of ice (gal/100 lbs ice), the harvest rate in pounds of ice per 24 hours (lbs ice/24 hours), the type of cooling, and the equipment type.

[76 FR 12451, Mar. 7, 2011; 76 FR 24776, May 2, 2011]

§ 429.46 Commercial clothes washers.

(a) *Sampling plan for selection of units for testing.* (1) The requirements of § 429.11 are applicable to commercial clothes washers; and

(2) For each basic model of commercial clothes washers, a sample of sufficient size shall be randomly selected and tested to ensure that—

(i) Any represented value of energy or water consumption or other measure of energy or water consumption of a basic model for which consumers would favor lower values shall be greater than or equal to the higher of:

(A) The mean of the sample, where:

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$$

and, \bar{x} is the sample mean; n is the number of samples; and x_i is the i^{th} sample;

Or,

(B) The upper 97½ percent confidence limit (UCL) of the true mean divided by 1.05, where:

$$UCL = \bar{x} + t_{0.975} \left(\frac{s}{\sqrt{n}} \right)$$

And \bar{x} is the sample mean; s is the sample standard deviation; n is the number of samples; and $t_{0.975}$ is the t statistic for a 97.5% one-tailed confidence interval with n-1 degrees of freedom (from Appendix A).

and

(ii) Any represented value of the modified energy factor, water factor, or other measure of energy or water consumption of a basic model for which

consumers would favor higher values shall be less than or equal to the lower of:

(A) The mean of the sample, where:

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$$

and, \bar{x} is the sample mean; n is the number of samples; and x_i is the i^{th} sample;

Or,

(B) The lower 97½ percent confidence limit (LCL) of the true mean divided by 0.95, where: